

## **REMARKS/ARGUMENTS**

### **1.) Claim Amendments**

Claims 1-19 and 21 are pending in the application. The Applicant has amended claims 1, 10, 11, 12, and 21. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

### **2.) Claim Rejections – 35 U.S.C. § 101**

The Examiner rejected claim 21 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Applicant has amended claim 21 to claim an invention directed to statutory subject matter. Therefore, the allowance of claim 21 is respectfully requested.

### **3.) Claim Rejections – 35 U.S.C. § 103(a)**

The Examiner rejected claims 1, 2, 7-9, 12, 13, 18, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. (US 6,512,753) in view of Eo et al. (US 6,069,574). The Applicant has further amended independent claims 1 and 12 to more clearly and distinctly claim the subject matter which the Applicant considers as his invention.

The Applicant has amended independent claim 1 to recite that the modified index (j) associated with a corresponding code has a fixed maximum spreading factor. Support for this amendment is found on page 9, lines 3-13 of the Applicant's specification. Furthermore, claim 1 has been amended to recite that the logic unit solely performs logic operations on bits of the modified index (j) and bits of a counter value (i). Support for this amendment is found on page 9, lines 14-25 of the Applicant's specification.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations (MPEP 2143). In that regard, the Applicant respectfully submits that the Examiner's two references still fail to teach or suggest each and every element of the presently pending independent claims.

The present invention discloses and claims a code generator comprising: an index conversion unit for converting the index (k) into a modified index (j) associated with a corresponding code having the fixed maximum spreading factor; and a logic unit for solely performing logic operations on bits of the modified index (j) and bits of a counter value (i), thereby generating a code bit of the orthogonal code.

The Examiner stated that Kim discloses a code generator having an index conversion unit which converts the index (k) into a modified index (j) associated with a corresponding code having the maximum spreading factor. The Applicant respectfully disagrees with this characterization. Specifically, the Examiner cites Fig. 7 and col. 6, lines 13-25 of Kim for disclosing that the index (k) is converted into a modified index (j) associated with the corresponding code having the maximum spreading factor. However, Kim merely discloses receiving a spreading code index (k) which then outputs a mask index and a Walsh orthogonal code index corresponding to the received spreading code index (k). Kim does not disclose converting the index (k) to a modified index (j) which is associated with the maximum spreading factor. Furthermore, the Applicant has clarified that this maximum spreading factor is fixed. As discussed on page 9, lines 3-13 of the Applicant's specification, the conversion of the index k, which is associated with the desired codeword having a selectable spreading factor SF to the modified index j, which is associated with the corresponding code having a fixed spreading factor (maximum spreading factor), the complexity of the subsequent units/steps is reduced because they need to be implemented for the maximum spreading factor only. Kim does not convert the index k to the index j, wherein the index (j) is associated with the fixed maximum spreading factor.

Furthermore, the Examiner stated that Kim does not disclose a logic unit for performing logic operations on bits of the modified index (j) and bits of a counter value (i). The Applicant agrees with this statement. However, the Examiner further stated that Eo discloses a logic unit for performing logic operations on bits of the modified

index (j) and bits of a counter value (i). The Applicant has amended claim 1 to distinguish the Applicant's invention from Eo. Eo discloses a logic unit which performs many operations rather than just the logic operations on bits of the modified index (j) and bits of the counter value (i). This provides for an overly complex logic unit. On the other hand, the Applicant's claimed invention provides a logic unit which solely performs these logic operations. By solely performing these simple logic operations within the logic unit, without performing any other complex processing operations, the complexity of the logic unit is reduced. Thus, no RAM/DSP/address buses are needed within the logic unit (see page 9, lines 14-25 of the Applicant's specification).

Therefore, the Applicant respectfully submits that the an index conversion unit for converting the index (k) into a modified index (j) associated with a corresponding code having the fixed maximum spreading factor and a logic unit for solely performing logic operations on bits of the modified index (j) and bits of a counter value (i) is simply not taught or suggest by either Kim or Eo, in combination or separately, as recited in claim 1. Claim 12 recites limitations analogous to claim 1 and also are not taught or suggested in Kim or Eo. Claims 2 and 7-9 depend from amended claim 1 and recite further limitations in combination with the novel elements of claim 1. Claims 13, 18, and 19 depend from amended claim 12 and recite further limitations in combination with the novel elements of claim 12. Therefore, the allowance of claims 1, 2, 7-9, 12, 13, 18, and 19 is respectfully requested.

The Examiner rejected claims 5, 6, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Eo as applied to claims 1 and 12 and further in view of Kim et al. (US 6,671,251; hereinafter Kim '251). The Applicant has further amended independent claims 1 and 12 to more clearly and distinctly claim the subject matter which the Applicant considers as his invention.

As discussed above, neither Kim nor Eo teaches or suggests an index conversion unit for converting the index (k) into a modified index (j) associated with a corresponding code having the fixed maximum spreading factor or a logic unit for solely performing logic operations on bits of the modified index (j) and bits of a counter value (i). The addition of Kim '251 does not make up the missing elements. Claims 5 and 6 depend from amended claim 1 and recite further limitations in combination with

the novel elements of claim 1. Claims 16 and 17 depend from amended claim 12 and recite further limitations in combination with the novel elements of claim 12. Therefore, the allowance of claims 5, 6, 16, and 17 is respectfully requested.

The Examiner rejected claims 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Eo and Rabaeijs et al. (US 6,967,992; hereinafter Rabaeijs). The Applicant respectfully traverses the Examiner's rejections and submits the following remarks for the Examiner's favorable reconsideration. The Applicant has further amended independent claims 10 and 11 to more clearly and distinctly claim the subject matter which the Applicant considers as his invention.

The Applicant has amended independent claim 10 to recite that the modified index (j) associated with a corresponding code has a fixed maximum spreading factor. Support for this amendment is found on page 9, lines 3-13 of the Applicant's specification. Furthermore, claim 10 has been amended to recite that the logic unit solely performs logic operations on bits of the modified index (j) and bits of a counter value (i). Support for this amendment is found on page 9, lines 14-25 of the Applicant's specification.

The combination Kim, Eo, and Rabaeijs does not teaches or suggests an index conversion unit for converting the index (k) into a modified index (j) associated with a corresponding code having the fixed maximum spreading factor or a logic unit for solely performing logic operations on bits of the modified index (j) and bits of a counter value (i) as recited in claim 10. Independent claim 11 contains limitations analogous to claim 10. Therefore, the allowance of claims 10 and 11 is respectfully requested.

The Examiner rejected claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Eo and Schooler et al. (US Pub. No. 2005/0053049). The Applicant has further amended independent claim 21 to more clearly and distinctly claim the subject matter which the Applicant considers as his invention.

The Applicant has amended independent claim 21 to recite that the index (j) associated with a corresponding code has a fixed maximum spreading factor. Support for this amendment is found on page 9, lines 3-13 of the Applicant's specification. Furthermore, claim 21 has been amended to recite the step of solely performing logic

operations on bits of the modified index (j) and bits of a counter value (i). Support for this amendment is found on page 9, lines 14-25 of the Applicant's specification.

The combination Kim, Eo, and Schooler does not teach or suggest a code segment for converting the index (k) into a modified index (j) associated with a corresponding code having the fixed maximum spreading factor or a code segment for solely performing logic operations by a logic unit on bits of the modified index (j) and bits of a counter value (i) as recited in claim 21. Therefore, the allowance of claim 21 is respectfully requested

The Examiner rejected claims 3, 4, 14, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Eo as applied to claim 1 and further in view of Piccinonno (WO 01/50659 A1) and further in view of Jechoux et al. (US Pub. No. 2002/0041636 A1). The Applicant has further amended independent claims 1 and 12 to more clearly and distinctly claim the subject matter which the Applicant considers as his invention.

As discussed above, neither Kim nor Eo teaches or suggests an index conversion unit for converting the index (k) into a modified index (j) associated with a corresponding code having the fixed maximum spreading factor or a logic unit for solely performing logic operations on bits of the modified index (j) and bits of a counter value (i). The addition of Piccinonno and Jechoux does not make up the missing elements. Claims 3 and 4 depend from amended claim 1 and recite further limitations in combination with the novel elements of claim 1. Claims 14 and 15 depend from amended claim 12 and recite further limitations in combination with the novel elements of claim 12. Therefore, the allowance of claims 3, 4, 14, and 15 is respectfully requested.

#### **4.) Prior Art Not Relied Upon**

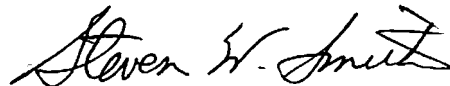
In paragraph 6 of the Office Action, the Examiner stated that the prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure. However, Applicant's reading of these references has not revealed any teaching or suggestion of the claimed invention.

**5.) Conclusion**

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1-19 and 21.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would expedite the prosecution of the Application.

Respectfully submitted,



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